

Remarks/Arguments:

Preliminary Matters

Claims 1-6 and 9-27 are presently pending. By this amendment, claims 1, 2, and 23 are amended and claim 27 is added. Support may be found throughout the specification as originally filed. For example, see page 4, lines 1-12; page 6, lines 7-13; page 7, lines 28-29; page 8, lines 28-31; and FIGs. 1 and 2. Applicants contend that no new matter is added. Reconsideration is respectfully requested in view of the above amendments and the following remarks.

Claim Rejection Under 35 U.S.C. 102(b) and 103(a):

Claims 1, 4, 18 and 20-22 stand rejected under 35 U.S.C. 102(b) as being anticipated by Sieracki et al. (US Pat. 6,308,102, hereafter referred to as Sieracki). Claims 1-6, 10-11, 14-16, and 18-22 are rejected under 35 U.S.C. 103(a) as being anticipated by Mann et al. (US Pat. 6,393,325, hereafter referred to as Mann) in view of Sieracki. Claims 17, 23, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sieracki in view of Brannon (US Pat. 6,193,678, hereafter referred to as Brannon). Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sieracki and Mann in view of Brannon. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sieracki and Brannon in view of Mann. Applicants respectfully traverse these rejection for at least the reasons set forth below.

Independent claim 1 recites "[a]pparatus for stimulation of the human body, the apparatus comprising: an array of stimulator elements arranged to be operated in a plurality of stimulator activation zone configurations so as to effect localised stimulation of said human body corresponding to each of said activation zone configurations; and a user interface device including a selectable array of independent input zones, each input zone corresponding to a respective stimulator element, thereby permitting a user to relate each input zone of the interface device to the respective stimulator element, wherein the apparatus is operable in a mode in which the activation zone configuration of the array of stimulator elements is selected independently of the user and the user uses the interface device to identify the activation configuration as perceived by the user by selecting respective independent input zones of said user interface device."

Sieracki does not disclose, teach, or suggest an apparatus for stimulation of the human body that includes a user interface device including "a selectable array of independent input

zones, each input zone corresponding to a respective stimulator element, thereby permitting a user to relate each input zone of the interface device to the respective stimulator element." Sieracki explains at column at column 8, line 62 through column 9, lines 54, that the system generates coded signals to the implants 29. Each implant 29 includes a receiver 32, a lead, and an array of electrodes 33. In the explained examples, the electrodes 33 may number from 2 to 16 and that each one of these electrodes is controlled to provide a desired stimulus. Sieracki does not include a user interface with independent input zones that correspond to respective ones of these electrodes. Sieracki does not consider identification of stimulus to this localized level.

Contrary thereto, as shown in FIGs. 7A and 7B of Sieracki, an image of a whole body is illustrated on a screen of a user interface device. Sieracki discloses on column 13, line 67 - column 14, line 24 and column 16, lines 61-65 that in response to a stimulus, including actuation of many electrodes, a user draws on the image to indicate where sensation was felt on the body. There is no input zone which corresponds to each localized stimulator element. In Sieracki, a user subjectively indicates an entire body part where sensation was felt (e.g., not indicating which stimulator elements are perceived to be stimulated). Sieracki fails to disclose, teach, or suggest each element of the claimed invention.

Similar to Sieracki, Mann explains at column 28, lines 51-57, that "[t]he next step of the fitting process, as shown in the flow diagram of FIG. 11, comprises defining where the stimulation is felt (block 146). This process is facilitated by displaying a patient FIG. 180 as illustrated in FIG. 12G. Once the FIG. 180 has been displayed, one area 181 of the patient FIG. 180 is selected as the area where the patient feels stimulation." As shown in Fig. 12G, the areas 181 correspond to general areas, and not to the specific electrodes 24. Again, there is no input zone which corresponds to each localized stimulator element. Instead, in Mann as in Sieracki, a user subjectively indicates an entire body part where sensation was felt (e.g., not indicating which stimulator elements are perceived to be stimulated). Mann, alone or in combination with the other cited references, fails to disclose, teach, or suggest each element of the claimed invention.

The remaining cited reference, namely Brannon, is cited only for teaching the use of vibratory units and a stimulation system using a vest. Brannon is not cited for, nor does it, overcome the shortcomings of Sieracki and Mann as set forth above.

Applicants respectfully submit that the cited references, alone or in any reasonable combination, fail to teach or suggest each limitation of the claimed invention. It is respectfully

submitted that independent claim 1 is in condition for allowance. Claims 2-6 and 9-22 each depend from claim 1 and are allowable for at least the reasons set forth with respect to claim 1 above.

Independent claim 23 recites "[a] method of stimulation of the human body, the method comprising stimulating the surface of the body with an array of stimulator elements, the array being operated to activate an activation zone configuration from a plurality of potential activation zone configurations, wherein the user interfaces with an interface device including a selectable array of independent interface zones, each interface zone corresponding to a respective one of the stimulator elements such that interface zones of the interface device selected by the user correlate to the active activation zone configuration of the respective stimulator elements."

As explained above with respect to claim 1, Sieracki, Mann and Brannon, alone or in any reasonable combination, fail to teach or suggest an interface device including "a selectable array of independent interface zones, each interface zone corresponding to a respective one of the stimulator elements such that interface zones of the interface device selected by the user correlate to the active activation zone configuration of the respective stimulator elements."

Because Sieracki and Brannon (either alone or in any proposed combination) fail to disclose or suggest all the features of amended claim 23, Applicants respectfully submit that claim 23 is in condition for allowance. Claims 24-26 depend from independent claim 23, and therefore, are allowable for at least the reasons set forth above with respect to claim 23.

New independent claim 27 recites "[a]n apparatus for stimulation of the human body, the apparatus comprising: an array of stimulator elements arranged to be operated in any selected one of a plurality of stimulator activation zone configurations so as to provide repeated localised external stimulation at one or more locations on the human body corresponding to the selected zone configurations so as to provide repeated localised external stimulation at one or selected activation zone configuration; and a user interface device configured to relate each of a plurality of distinct interface zones of the interface device to a respective stimulator element."

As explained above with respect to claim 1, Sieracki, Mann and Brannon, alone or in any reasonable combination, fail to teach or suggest an interface device "configured to relate each of a plurality of distinct interface zones of the interface device to a respective stimulator element." Because Sieracki and Brannon (either alone or in any proposed combination) fail to disclose or suggest all the features of amended claim 27, Applicants respectfully submit that claim 23 is in condition for allowance.

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Conclusion

It is respectfully submitted that each of the pending claims is in condition for allowance.
Early reconsideration and allowance of each of the pending claims are respectfully requested.

If the Examiner believes an interview, either personal or telephonic, will advance the prosecution of this matter, the Examiner is invited to contact the undersigned to arrange the same.

Respectfully submitted,



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